Rice seed energy storage material

Storage proteins are essential for seed germination and seedling growth, as they provide an indispensable nitrogen source and energy. Our previous report highlighted the defective endosperm development in the serine hydroxymethyltransferase 4 (OsSHMT4) gene mutant, floury endosperm20-1 (flo20-1). However, the alterations in storage protein content ...

It is also important to ensure that the seed material for storage is almost free from any seed-borne pathogens and pests. ... at relatively low energy consumption and cost, as refrigeration is not required. ... @ 2 ppm provide effective (ID: 0.10% and 0.13%, respectively) control of storage insects infesting rice seed up to 12 months of storage ...

Rice (Oryza sativa L.) is one of the most important staple cereal foods consumed by about half of the world"s population, supplies adequate energy in the form of calories and is a good source of thiamine, riboflavin and niacin 1.During storage, grain quality remain high at the initial level or decline to a level that may make the grain unacceptable for planting purpose what is related to ...

Storage loss of rice seed in terms of quality parameters is higher in Nepal due to lack of information about the effect of storage materials. Laboratory experiment was conducted to evaluate the ...

Rice (Oryza sativa L.) is a primary global food crop, and the consistent availability and stability of rice supply are vital for global food security.As orthodox seeds, rice seeds achieve their longest longevity after acquiring desiccation tolerance, yet their longevity diminishes with seed aging (Verdier et al, 2013).This decline typically follows a reverse S-shaped pattern, ...

Significant (P < 0.05) variations of storage condition and storage duration on germination attributes of primed rice seeds were recorded (Table 2).When averaged across three priming treatments, the germination percentage, GI and VI of primed seeds stored under LT-V for 60 days were 97.1, 69.2, and 261.3, respectively, which showed no significant difference to ...

Seeds are the most important plant storage organ and play a central role in the life cycle of plants. Since little is known about the protein composition of rice (Oryza sativa) seeds, in this work we used proteomic methods to obtain a reference map of rice seed proteins and identify important molecules. Overall, 480 reproducible protein spots were

Low temperatures cause serious threat to rice seed emergence, which has become one of the main limiting factors in the production of direct seeding rice. It is of great importance to study the genes controlling low-temperature tolerance during seed germination and to mine the possible regulatory mechanism for developing new rice varieties with immense low ...

Rice seed energy storage material

Rice storage proteins (RSPs) are plant proteins with high nutritional quality. As the second largest type of storage substance in rice, it is the main source of protein intake for ...

Rice Drying, Storage and Processing: Effects of Post-Harvest Operations on Grain Quality ... quality rice seeds is around 40 ºC. ... material and in the environment, and it can be used to .

1. Introduction. Rice (Oryza sativa L.) seeds, which have high productivity and value-added nutrients, are one of the staple foods in human diet (Bhullar & Gruissem, Citation 2013; Xu et al., Citation 2011).To avoid the social problem and humanitarian crisis caused by food shortage, a large number of storage facilities have been established to reserve rice seeds ...

Seed storability has a significant impact on seed vitality and is a crucial genetic factor in maintaining seed value during storage. In this study, RNA sequencing was used to analyze the seed transcriptomes of two rice thermo-sensitive genic male sterile (TGMS) lines, S1146S (storage-tolerant) and SD26S (storage-susceptible), with 0 and 7 days of artificial ...

Seed deterioration during rice seed storage can lead to seed vigor loss, which adversely affects agricultural production, the long-term preservation of germplasm resources, and the conservation of species diversity. However, the mechanisms underlying seed vigor maintenance remain largely unknown. In this study, 16 hybrid rice combinations were created ...

Abstract. Seed priming is a successful practice to improve crop establishment under adverse environment. However, reduced longevity of primed rice (Oryza sativa L.) seeds during storage limited the adoption of this technique.Present study investigated the effect of temperature, relative air humidity (RH) and oxygen on the longevity of primed rice seeds in a range of 60 days storage.

The length of time for which seeds maintain their viability and vigor in storage is a trait of interest for rice (Hay et al., 2018) and viable seeds are critical for successful crop establishment ...

Seed longevity is a crucial trait for the seed industry and genetic resource preservation. To develop excellent cultivars with extended seed lifespans, it is important to understand the mechanism of keeping seed germinability long term and to find useful genetic resources as prospective breeding materials. This study was conducted to identify the best ...

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